PART 1 GENERAL

1.01 DESCRIPTION

A. Furnish and install complete vibration control devices as specified herein. Provide all accessories and equipment as necessary for a complete system.

1.02 QUALITY ASSURANCE

A. All equipment shall be UL listed and labeled and in accordance with applicable NEMA and ANSI Standards.

1.03 SUBMITTALS

A. For Review:
   1. Product data sheets of all components

B. To be included in Record and Information Manuals:
   1. One (1) copy of each approved submittal

1.04 MANUFACTURERS

A. Vibration Isolation
   1. Amber/Booth Company, Inc.
   2. Korfund Dynamics
   4. Vibration Mountings and Control

PART 2 PRODUCTS

2.01 VIBRATION ISOLATION MOUNT TYPES

A. Type DNP (Double Neoprene Pads)
   1. Neoprene pad isolators shall be formed by two layers of 1/4 inch to 5/16 inch thick ribbed or waffled neoprene, separated by a stainless steel or aluminum plate. These layers shall be permanently adhered together. The pads shall be sized so that they will be loaded within the Manufacturer's recommended range.
   2. Type DNP isolators shall be formed from one of the following products or approved equal:
      Type NR ............................................... Amber/Booth
      Type Korpad ......................................... Korfund Dynamics
      Type NPS .............................................. Peabody Noise Control
      Series Shear Flex ........................................ Vibration Mountings and Control
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VIBRATION ISOLATION

B. Type HN (Hanger Neoprene or Glass Fiber)  
   1. Vibration isolation hangers shall consist of a neoprene-in-shear or glass fiber element contained in a steel housing. A neoprene neck bushing (or other element) shall be provided where the hanger rods passes through the hanger housing to prevent the rod from contacting the hanger housing. The diameter of the hole in the housing shall be sufficient to permit the hanger rod to swing through a 30 degree arc before contacting the hanger housing.  
   2. Type HN isolators shall be one of the following products of approved equal:  
      Type BRD-A ............................................. Amber/Booth  
      Type H ................................................. Korfund Dynamics  
      Type RH or FH .......................................... Peabody Noise Control  
      Type RHD or RFD ....................................... Vibration Mountings and Control

2.02 FLEXIBLE ELECTRICAL CONNECTIONS

A. Type A  
   1. Flexible electrical connection Type A shall be a prefabricated unit incorporating a flexible and watertight outer jacket, grounding strap, plastic inner sleeve to maintain smooth wire way, and end hubs with tapered electrical threads to fit standard threaded rigid metal conduit.  
   2. Flexible electrical connection Type A shall be Crouse-Hinds (Syracuse, NY) "XD" Expansion/Deflection Coupling.

B. Type B  
   1. Flexible electrical connection Type B shall be field fabricated using a minimum 2 foot length of flexible conduit or cable.

C. Type C  
   1. Flexible electrical connection Type C shall be field fabricated using a minimum 4 foot length of flexible conduit or cable.

PART 3 EXECUTION

3.01 APPLICATION

A. Transformers  
   1. Transformers within the building construction shall be mounted on Type DNP isolators. Where the transformer is a part of a unit substation and the transformer cabinet is directly connected to switchgear cabinets, the entire unit substation assembly shall be mounted on Type DNP isolators. If the transformers are suspended, use Type HN isolators selected to achieve not less than 0.1 inch static deflection.  
   2. Electrical connections to isolated transformers, and unit substations shall be made using flexible electrical connections Type A or Type B.

B. Mechanical Equipment  
   1. Electrical connections to vibration isolated mechanical equipment shall be made using flexible electrical connections Type A or Type C.
3.02 INSTALLATION

A. Coordinate the size, location, and special requirements of vibration isolation equipment and systems with other trades. Coordinate plan dimensions with size of housekeeping pads.

B. Provide vibration isolators of the appropriate sizes and proper loading to meet the specified requirements.

C. Supply and install any incidental materials needed to meet the requirements stated.

D. Should any electrical equipment cause excessive noise or vibration, the Contractor shall be responsible for remedial work required to reduce noise and vibration levels. Excessive is defined as exceeding the Manufacturer's Specifications for the unit in question.

E. In all cases, isolated electrical equipment shall be positioned so that it is freestanding and does not come in rigid contact with the building structure or other systems.

F. Isolation Mounts
   1. All mounts shall be aligned squarely above or below mounting points for the supported equipment.
   2. If a housekeeping pad is provided, the isolator shall bear on the housekeeping pad and the isolator base plate shall rest entirely on the pad.
   3. Hanger rods for vibration isolated support shall be connected to structural beams or joist, not to the floor slab between beams and joists. Provide suitable intermediate support members as necessary.
   4. Vibration isolation hanger elements shall be positioned as high as possible in the hanger rod assembly, but not in contact with the building structure, and so that the hanger housing may rotate a full 360 degrees about the rod axis without contacting any object.

G. Flexible Electrical Connections
   1. Type C connections shall be installed in a grossly slack "U" shape or a 360 degree loop.
   2. Rigid conduit on the isolated-equipment side of the flexible connection, and the flexible connection itself, shall not be tied to the building construction or other rigid structures.

END OF SECTION